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CONTENTS.

CLINICS.

HOSPITAL NOTES AND GLEANINGS.

Constipation of Three Months completely removed 129
Belladonna in Juvenile Incontinence of Urine 130
Wound of Cornea, Sclerotic, and Iris, from an Iron Screw weighing twelve grains, which was subsequently extracted 130
Blow on the Eye from a Nail; intense Inflammation, with Sloughing and complete Collapse of the Eyeball 131
Treatment of Nævus by Injections with Tannic Acid 131
Serous Bronchocele 132
Menstruation During Pregnancy 132
Neuroma of the Posterior Tibial Nerve; Amputation of the Foot 133
Congenital Absence of the Radius and its Muscles 134
Congenital Deficiency of Part of One of the Abdominal Muscles 134

MEMOIR.

On the use of Metallic Sutures and Metallic Ligatures in Surgical Wounds and Operations 134

MEDICAL NEWS.

Domestic Intelligence.—Yellow Fever . . . 142
The American Pharmaceutical Association . 142
Shelby Medical College 143
Prof. Agassiz 143

Foreign Intelligence.—Neuralgia 143
Iodide Injections 143
Neglect of Brain Disease 143
Aluminium 144

HABERSHON, DISEASES OF THE ALIMENTARY CANAL. 16 PAGES.

CLINICS.

HOSPITAL NOTES AND GLEANINGS.

Constipation of Three Months completely removed.—A boy aged eleven years, from Essex, was admitted into the Royal Free Hospital, on the 12th of April, 1858, for obstinate constipation, which had existed for three months, without a single motion. His abdomen was enormously swollen, quite solid almost throughout, from the packing of the bowels, and measured forty-three inches in circumference. There were many symptoms present, solely due to the interference in the natural circulation through such an important channel as the alimentary canal. Dr. Brinton prescribed an enema, which could not be introduced, as the rectum to the verge of the anus itself was absolutely packed with matter. This was got rid of by means of scraping it away, and when this part of the bowel was pretty well cleared, the size of the abdomen was reduced to thirty-nine inches and a half, when enemata began to act. The most useful and efficacious enema now was croton oil, castor oil, turpentine, and gruel. This was given every few days, until the alimentary canal was perfectly cleared, removing an enormous quantity of scybalæ and hard feces; and the abdomen measured on the 19th of July, the day of his discharge, but twenty-eight inches, its natural size.

This boy had had other enemata previous to that containing croton oil, and although they acted slightly when once the rectum was emptied, still the croton oil appeared to be the most efficacious. He was taking inwardly at the same time, at first colocynth and aloes, and latterly compound rhubarb pill every night, the bowels being relieved daily for the last month.

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Constipation was an habitual thing with him, from a general torpidity of his alimentary canal, and he did not seem to have any hepatic sluggishness. He took but a small quantity of medicine by the mouth until latterly, and the case illustrates very well the value of proper enemata, judiciously administered. When the boy first came into the hospital, and lay on his bed, the prominence of the abdomen was so great that he could not see his feet. He passed a great deal of urine during his constipation, and his appetite was excellent. When he left the hospital, the abdomen was supported with buckle bands. We may remark, that when first admitted he was galvanized over the abdomen, but that proved of no service of itself till the enemata began to act.—*Lancet*, *July* 31, 1858.

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Belladonna in Juvenile Incontinence of Urine.—The use of belladonna against incontinence of urine in children, as strongly recommended about a year ago by Mr. Brooke, of the Westminster Hospital, has, we believe, well borne the test of the trials which his laudation of it induced. Several surgeons have, we know, formed most favourable opinions of its efficiency. A case under Mr. Hutchinson's care, at the Metropolitan Free Hospital about three months ago, afforded very conclusive evidence of its power. The patient was a boy of ten who had from infancy been exceedingly troubled by inability to retain his water. Nightly incontinence was a matter of rule, and very often the urine would escape during the daytime also. Nux vomica, sesquichloride of iron, etc., had been fairly tried, and without benefit. At first the belladonna seemed to do no good, but being pushed until symptoms of poisoning were apparent, it finally effected a complete cure. The bladder appeared to have wholly lost its morbid irritability, and during six weeks that the boy remained under observation, his mother stated that no single instance of incontinence had occurred. The remedy was given in solution in water, and without any adjuvant whatever. Belladonna is one of our remedies which certainly deserves a more thorough clinical investigation of its powers than it has yet received.—*Med. Times and Gaz.*, July 31, 1858.

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Wound of Cornea, Sclerotic, and Iris, from an Iron Screw weighing twelve grains, which was subsequently extracted.—The ophthalmic wards of St. Mary's Hospital have lately presented the following cases of considerable interest:—

A deaf and dumb lad, aged eighteen, was admitted on the 13th of April, 1858. Three weeks previously, whilst working a screw cutting-machine in a manufactory at Derby, a fragment of iron struck his eye with great force, and inflicting a large wound, instantly blinded it. The same evening he was seen by Mr. Baker, of Derby, who took charge of the case, and treated it with much skill for three weeks, at the expiration of which time he was sent to St. Mary's Hospital. On his arrival, the eyeball was found considerably diminished in size, and presenting a large wound, involving the cornea and sclerotic. The iris was implicated in the wound, and there was no trace of pupil. The lad was in a wretched state of debility, mainly from poverty, and the treatment adopted was simple cold dressings with belladonna to the eye, good diet, and steel with quinine internally. Under this treatment, the eye progressed favourably, the pain and inflammation subsided, and cicatrization proceeded satisfactorily.

On Saturday, May 8th, Mr. White Cooper observed that a dark-brown point had made its appearance in the wound, and expressed his opinion that it was metallic, which a touch with a probe proved to be the case. He tried to remove it with forceps, but finding that it was firmly impacted in the eye, he ordered the patient to the operating-theatre, and proceeded to extract it under chloroform. Having made an incision through the cornea and iris in their whole breadth, he seized the foreign body, and with some difficulty withdrew it. It proved to be a piece of iron screw, four lines in length by three in breadth, and weighing twelve grains. Its edges were extremely jagged and sharp, and the surface irregular. Notwithstanding the violence inflicted on the eye by the withdrawal of this mass, scarcely any irritation followed, and on the following Tuesday the lad was able to leave his bed, and walk about the ward.

It is evident that at the time of the accident the fragment of iron cut through the cornea and iris, and buried itself out of sight. It is most remarkable that such a mass of a form so calculated to excite irritation, should have caused so little, that

even pain, the most common and most annoying of all symptoms attending the presence of foreign bodies in the eyeball, should have subsided, and the wound cicatrized; that it would subsequently have made its presence known there is no doubt, and sympathetic inflammation and destruction of the other eye would have been the probable consequence.—*Lancet*, July 17, 1858.

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Blow on the Eye from a Nail; Intense Inflammation, with Sloughing and complete Collapse of the Eyeball.—In contrast to the foregoing stands the following case:—

An Irishman, aged thirty-seven, was admitted into St. Mary's Hospital, March 22d, under Mr. Coulson. Two days previously, whilst shaking carpets, he was struck on the left eye by a nail thrown up from the carpet. It is doubtful whether the eye was penetrated or not; but the same evening it became painful, swelled rapidly, and on the 22d, when he was admitted, the whole globe was enlarged and acutely inflamed. Eight leeches were immediately applied, five grains of calomel administered, and saline mixture ordered thrice daily.

March 23. Eye worse; lids purple and enormously swollen, and the eyeball projecting from between them. To have four grains of calomel immediately, to be followed by senna mixture; six leeches to be applied to the temple.

On the 24th, this patient was transferred to Mr. White Cooper. The lids at this time were livid and greatly tumefied; between them, and firmly grasped by them, a dark-brown mass projected, from which a little thin pus oozed. With some difficulty the limits of the cornea were discerned in the centre of this mass, which was, in fact, the anterior hemisphere of the eye in a state of slough; the skin was cold and clammy; pulse 60 and low. He complained of intense pain in the eye and head. Poultices, with frequent fomentations, were ordered for the eye; forty drops of laudanum in camphor mixture immediately, to be followed by twelve drops every four hours; strong beef-tea every two hours.

25*th*. The eye discharging pus freely from an aperture in the cornea; appearances much the same. Ordered, two grains of quinine thrice daily.

30*th*. The slough, including the whole cornea, and a considerable portion of the sclerotic, separating kindly; all pain has ceased. To have wine and a mutton-chop; the quinine to be continued.

The result of this case was complete disappearance of the eye; the appearance is much the same as if extirpation had been performed, and frænæ have, to a certain extent, bound down the lids.

When we contrast the formidable train of symptoms which followed the slight injury in this case with the moderate inflammation set up by the fragment of iron buried in the eye in the other, we can only attribute the difference to the more favourable habit of body—the semi-starved condition of the poor lad; whilst the man's blood was inflamed by ardent spirits and gross condition of body.

A striking instance of rapid recovery after extirpation of the eye has recently presented itself at this hospital. On Wednesday, March 31st, Mr. White Cooper excised a very large staphylomatous eye from a lad, aged eighteen. On the following Saturday, three days only after the operation, the orbit was quite in a condition to bear an artificial eye, and the patient was walking about the ward quite rejoicing in the relief afforded to the pain which the diseased eye had long caused.—*Ibid.*

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Treatment of Nævus by Injections with Tannic Acid.—Our readers may remember a notice in the reports of the Royal Medico-Chirurgical Society, of a communication by Mr. Haynes Walton on the successful treatment of a vascular tumour in the orbit by a solution of tannic acid. We understand that several surgeons have been adopting the method there advocated for the removal of nævi, and with the best results. Mr. Walton has himself used it in several such cases to his complete satisfaction. We record an instance that came under our notice in his practice at St. Mary's Hospital. A subcutaneous nævus was observed at the root of the nose in an infant eight months old. It was treated by iodine paint and cold lotions without benefit, and the increase induced the parents to send the child to a London hospital. There was now, five months later, a tumour as large as a marble, soft, capable of being much reduced by pressure, and covered by perfectly healthy skin. Mr. Walton at first applied a ligature subcutaneously, but unsuccessfully; indeed

this seemed rather to hasten growth. Then he resolved to inject with tannic acid. An aperture was made at the base of the tumour with a narrow tendon knife, which was moved about with the view of breaking down some of the texture, in order that the injection might have sufficient contact with the blood, and produce that peculiar coagulation which this agent is capable of effecting. The nozzle of a small syringe filled with a solution of the salt, in the proportion of a drachm to an ounce of water, was passed into the wound, and the fluid quietly thrown in till the nævus was well distended. Mr. Walton laid much stress on the gentleness of injecting, and the propriety of ceasing directly that the tension of the tumour was apparent, lest extravasation should happen. The hardness that quickly ensued proved the rapidity of the coagulation.

The special advantages of the plan are its potency and safety. The action of the tannic acid on the blood is certain, a peculiar coagulation being at once produced. There is no risk of sloughing, an occurrence that is apt to ensue when the muriated tincture of iron is used, and when it is due to the free acid it contains. The child attended at the hospital for a week, and then left for the country, there not being yet any apparent alteration. It was seen at the end of three weeks, and a very considerable reduction was manifest, and to the touch there was a sensation of lumps beneath the skin. Mr. Walton saw the child for the last time just six weeks after the operation, when there was no appearance of a tumour, and except that the integuments at the spot were a little hard, there was no trace of the former disease. No one, he says, would have told by mere ocular inspection that a nævus had existed.—*Lancet*, May 8, 1858.

Serous Bronchocele.—Instances of serous bronchocele now and then present themselves to the notice of both physicians and surgeons at our large hospitals. We recollect an example under the care of Mr. Solly, at St. Thomas's Hospital, in an elderly woman, in Queen's ward, about two years ago, who was tapped to the extent of a pint, the fluid being serous, and again collecting at the time we saw it. The patient, however, left the hospital without anything further being done. A few weeks back, an analogous case, in an elderly woman, presented itself to the notice of Mr. Erichsen, at University College Hospital, the prominence depending most likely upon the presence of a cyst within the gland, containing serum. The patient refused to enter the hospital, and nothing was, therefore, done, although she had come out of the country expressly for surgical advice.

Such cases as these are sometimes benefited by tapping. When punctured, they have been known to inflame, suppurate, and their lining membrane to slough and contract. We have known instances, however, which, when punctured, have given exit to blood instead of serum. A remarkable instance of this kind, diagnosed as a pulsating bronchocele, was under Mr. Erichsen's care last year, of a young woman with a very large tumour indeed, in whom it was found necessary to tie the superior thyroid artery of the right side, with but temporary benefit. The treatment afterwards consisted of the injection of the perchloride of iron on several occasions. There was, however, frequent hemorrhage from the wound of the ligature, and on one occasion she lost a good deal of blood in the night without knowing it, which weakened her very much. She ultimately left the hospital but as the growth was extending, a fatal result probably ensued. When enlargement is producing danger of suffocation, ligature of the vessels supplying the tumour has been advised, or the use of a seton, or, finally, extirpation; but very few examples of success have occurred to encourage the practice of either of these.—*Lancet*, July 17, 1858.

Menstruation During Pregnancy.—That a discharge, more or less identical with the ordinary catamenial flow may occur during pregnancy, is admitted by the majority of experienced observers. The following case under the care of Dr. Grailly Hewitt, is an interesting example of this kind:—

Mary B——, aged twenty-five, presented herself at the Samaritan Free Hospital in April last. She had been married for six years. The catamenia commenced at the age of twelve, and at first appeared every two months. After a suppression which lasted for six months, the discharge became regular at the age of fourteen, and continued so until after her marriage, the ordinary interval being a calendar month. She became pregnant for the first time

rather less than six years ago, and was delivered of a healthy child, now alive. During this first pregnancy, however, it is stated that every fourteen days a bloody discharge occurred, lasting three or four days, and this periodic discharge persisted during the *whole period of gestation*. The discharge was rather paler than that observed before she became pregnant. The child was suckled for six months, and during lactation no trace of bloody discharge was noticed. A second pregnancy, attended with precisely the same phenomena, terminated favourably three years ago. The second child, also now alive, was suckled for fifteen months, and the catamenial discharge was absent in this second instance also during lactation. The catamenial discharge is habitually rather excessive in quantity, continuing usually six to seven days; it occasionally extends over twelve or thirteen, and this has been the case since she was married only.

There appeared no reason for disbelieving the facts of the case, as above stated, and as it was important to substantiate them as far as possible, further inquiries were made, the result of which confirmed the truth of the patient's account. From the birth of the second child up to seven months ago, she continued regular; after that time, symptoms of pregnancy were again observed, viz., morning sickness, pain in the legs and back, resembling those which occurred in her former pregnancies; but the catamenial discharge at the same time became irregular, the irregularity consisting, as in the former two instances, in its taking place about every fortnight. This latter circumstance, indeed, as she herself observed, was one which, from her former experience, led her to consider herself again pregnant. Four months ago the abdomen became swollen, and the breasts much enlarged and painful. Three weeks later, while walking in the street, she slipped upon a piece of orange-peel; and twelve hours afterwards, pains, like those of labour, supervened, and a fleshy substance was expelled from the vagina. From an examination of these and other facts related, it is evident that abortion then took place. The abdomen immediately diminished in size, and has remained very small ever since.

The case is one of very considerable interest. Here, in fact, was an instance of the kind referred to by Desormeaux (quoted by Dr. Montgomery), "in which the appearance of the menses in small quantities, and at an unusual time, was almost a certain sign of conception." So, indeed, the patient, in the case just related, considered it to be. The same series of phenomena were observed, let it be observed, on *three* successive occasions.

The patient now sought relief for pelvic pain and menorrhagia, depending, as Dr. Graily Hewitt was led to believe on excessive uterine engorgement, and deficient involution of that organ after the abortion. No other morbid condition was detected on examination.—*Lancet*, July 24, 1858.

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Neuroma of the Posterior Tibial Nerve; Amputation of the Foot.—An Irish boy, twenty-four years of age, was recently admitted into St. Bartholomew's Hospital, with a nodulated swelling of the sole of his right foot. It had commenced twelve months ago, and now involved the greater part of the sole in a series of nodules, associated with general swelling, which had lately extended to the inner margin of the sole. He had been three weeks in hospital, When Mr. Lawrence, after consultation with his colleagues, determined to remove the foot above the ankle-joint. This joint was quite unaffected, and so were the other parts of the foot. The growth of the tumour had been somewhat rapid of late, and the surfaces of the nodules were discoloured; and so far as could be judged by these, together with the history, it looked as if it were medullary sarcoma. The leg was amputated by Mr. Lawrence on the 22d of May, and the foot was subsequently carefully dissected, when a true neuroma was found, the size of a walnut, on the posterior tibial nerve, the intimate fibrils of which surrounded the tumour, or, in other words, the tumour was developed from one or more fibres of that nerve, and caused the others to be expanded over it, and separated from one another as the tumour increased in size. The affected nerve gradually got lost in the structures of the sole of the foot, which had become completely degenerated in character, scarcely any of the natural tissues, excepting, perhaps, one or two small muscles, being recognizable. The lad, however, is doing very well, and will make a good recovery.

A case in some respects similar to this was in the same hospital a few weeks back,

under Mr. Stanley's care, of a young woman, who has a pulsating tumour in the sole of her foot; it was diagnosed a pulsating tumour, but turned out to be a neuroma of the internal plantar nerve underneath the plantar artery.

These cases are of great interest, especially from the difficulty in arriving at a correct diagnosis before operative proceedings.—*Lancet*, June 26, 1858.

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Congenital Absence of the Radius and its Muscles.—Very curious cases come under notice occasionally, illustrating the freaks of Nature in the deficiency of parts. When they are uncommon, we generally bring them under the notice of our readers. On the 2d of June, a child of two years was brought to Mr. Erichsen, at University College, whose left hand was twisted inwards, and quite loose at the wrist as if paralyzed. The apparent thumb was rudimentary, and hung by a piece of skin. On minute examination, however, it was discovered that the entire radius was absent, as well as, so far as could be made out, its proper muscles. There was a wrist-joint; but the true radio-carpal joint was not perfect, nor was there any metacarpal bone of the thumb. The true thumb was, therefore, deficient, and the rudimentary finger in its place was evidently not a thumb, but probably a second index finger. This appendage, being in the way, was removed by Mr. Erichsen.

What is peculiarly interesting in this case is, that there is not only an absence of a bone, such as the radius, of itself very rare, but that its proper muscles should be deficient. We could understand such a phenomenon better were a whole limb gone in utero; but why Nature should pick out a particular bone and its muscles in the centre of a limb for deficiency, is a problem that is difficult to solve.—*Lancet*, June 19.

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Congenital Deficiency of Part of One of the Abdominal Muscles.—An otherwise healthy infant, now attending Dr. RAMSKILL's out-patients' room at the Metropolitan Free Hospital presents the curious phenomenon of want of symmetry in the two sides of the abdomen. When quite at rest the umbilicus is on a plane a little to the right of the median line, and the left side is wider and larger every way than the other. During crying or laughing the navel resumes its median position, and the upper two-thirds of the left side start out into a prominent bulging. The swelling, which is at times quite as large as an adult fist, is tympanitic, and quite painless, evidently consisting of the intestines and stomach. No enlargement of the spleen can be detected, and, as already said, the child seems to be in perfect health. On palpation, the part of the left side where the bulging occurs is felt to be decidedly softer, and less resistent than the opposite. Dr. Ramskill remarked that he had formerly seen, at Guy's Hospital, a case in which the condition was almost precisely similar, and that Mr. Hilton had diagnosed a congenital deficiency of a large portion of one or both of the deeper muscles of the abdominal parietes. He was inclined to think that this was the condition present also in the one now under notice. The opinion was confirmed, he thought, by the circumstance that a sort of line might be felt passing obliquely downwards from the upper part of the iliac crest to the median line, which about bounded the lower edge of the protrusion. To suppose the upper three-fourths of the transversalis muscle wholly wanting, would just account for the state of things. Above, the protrusion is bounded only by the edge of the ribs, which it overlaps during forced inspiration to a marked degree.—*Med. Times and Gaz.*, July 3, 1858.

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MEMOIR.

On the Use of Metallic Sutures and Metallic Ligatures in Surgical Wounds and Operations. By J. Y. SIMPSON, M. D., Professor of Medicine and Midwifery in the University of Edinburgh. (Continued from p. 124.)

Part II. *Relation of Living Structures to Metallic and Organic Foreign Bodies.*—In pursuing the study of metallic as compared with organic surgical threads, there are two general laws in Surgical pathology which it seems necessary to consider before we can fully understand the relative advantages and disadvantages of these two forms of surgical sutures or ligatures. The two laws to which I allude have hitherto attracted very little attention from surgeons. They refer to the comparative passiveness of living tissues to the presence and contact of metallic materials, and their excitability and irritation, on the other hand, under the presence and contact of foreign organic bodies de-

rived from the vegetable or animal kingdoms.

Law of Tolerance of Living Structures for the Presence of Foreign Metallic Bodies.—Metallic bodies when lodged and imbedded without much mechanical contusion or injury in living tissues, produce comparatively little or no irritation by their presence; and if inflammation is excited by their contact, that inflammation is usually limited to the first or adhesive stage, and does not progress onwards to the higher stages or terminations of suppuration and ulceration.

In corroboration of this important general law, let me adduce some individual instances in evidence.

In the lower animals, when a portion of metal is placed in the subcutaneous tissues, and the external wound is closed over it, the foreign body becomes imbedded and fixed in its site, without leading to the production of suppuration and ulceration in the tissues in contact with it. With a view of testing this fact, I had placed deeply in the back and sides of a pig small pieces of gold, silver, copper, lead, and iron. We found no pus effused around these metallic bodies, when the wounds were opened and carefully examined six days subsequently. Around the pieces of gold, lead, and copper there was a thickish layer of coagulable lymph or fibrin, making as it were a complete cast of the foreign body; but shewing under the microscope nothing but exudation corpuscles, and granules. Around the pieces of silver and iron there was no such distinct appearance of an incipient cyst;[1] for the portions of metal seemed to be closely embraced by the surrounding tissues, with little or no adhesive exudation between their contiguous surfaces. In some experiments which Mr. Syme made several years ago upon the dog, with the view of ascertaining whether or not the periosteum could throw out bone upon its internal surface, he introduced between the radius and its periosteum a thin plate of metal, using, I believe, lead for the purpose; and the superficial parts were found to heal "kindly" over and around this foreign body, apparently without any tendency whatever to suppuration or ulceration. . . . He exposed the radius in another experiment, cut away the periosteum, and surrounded the denuded bone with a piece of metal. At the end of six weeks he found a thick, rough capsule formed, inclosing the metallic plate.[2]

But the law holds equally good, that metallic bodies may be lodged within the living tissues of the human body without creating any considerable amount of irritative reaction.

It is a well-known fact in military surgery that in gunshot wounds, after the immediate effects, in the way of contusion and injury, resulting from the mechanical force of the ball, have passed away, the metallic ball itself may lodge in the tissues of the body for months or years with impunity; more especially if the internal vital organs are not touched by it.[3]

Since commencing these inquiries I have had reported to me, by my medical and other friends, several instances in which bullets have remained lodged within the bodies of officers and soldiers still living, and who received them at Waterloo and in the Peninsular War, forty years ago and upwards. One of the oldest and greatest military surgeons, Ambrose Paré, when speaking on this subject, remarks: "Leaden bullets (says he) lie in some parts of the body some whiles seaven, eight, or more yeares, so that they neither hinder the agglutination of the wound, neither doth any other symptome happen thereupon, as I have diverse times observed; untill at length by the strength of nature forcing them, and their proper weightines bearing them downewards, they shew themselves in some lower part, by their swelling or bunching forth, so that they must be taken forth by the hand of the Chirurgion. For they say Lead hath a certaine sympathy and familiarity with man's body, chiefely the fleshy parts thereof. Wherefore it neither putrefies itselfe nor causeth the flesh to putrefie; besides it hath an excellent faculty in cicatrizing old ulcers."[4]

To the same effect in his essay on gunshot wounds, the celebrated John Hunter, when speaking of the practice of leaving the ball, and not dilating the gunshot wound on that account, observes, "This practice has arisen from experience; for it was found

[1] In a later experiment I have seen a cyst formed around an angulated piece of bright steel.

[2] Transactions of the Royal Society of Edinburgh for 1840, vol. xiv. p. 163.

[3] Sometimes, however, "balls (observes Professor Traill) have been lodged in various parts of the body, even the chest, or the heart itself, for years, without causing death."—*Outlines of Medical Jurisprudence*, p. 87.

[4] English edition of Ambrose Parè's Works, p. 429.

that balls, when obliged to be left, seldom or ever did any harm when at rest, and when not in a vital part; for balls have been known to lie in the body for years, and are often never found at all, and yet the person has found no inconvenience. This knowledge of the want of power in balls to promote inflammation when left in the body arose from the difficulty of finding them, or extracting them when found, and therefore in many cases they were obliged to leave them."[1]

It would be easy to adduce evidence of the same kind from the works of other and later military surgeons, as John Bell,[2] Guthrie,[3] B. Cooper,[4] etc., but additional proof is perhaps superfluous, as the fact is one generally acknowledged in Surgical Pathology.

Seeing thus that musket-balls may remain lodged without irritation or inconvenience, in contact with the structures of the living body, it is scarcely necessary to add—what the experience of almost every surgeon can corroborate—that leaden pellets and small shot do often in the same way lie imbedded for years beneath the skin, or more deeply in the living structures.

In these cases of leaden bullets and pellets lodged for any length of time, the surrounding soft tissues, or a special cyst, embrace and hold firm the inclosed foreign body. "When (observes Mr. Guthrie)[5] a ball has been lodged for years, a membranous kind of sac is formed around it, which shuts it in, as it were, from all communication with the surrounding parts. If it should become necessary to extract a ball which has been lodged in this manner, the membranous sac will often be found to adhere so strongly to the ball that it cannot be got out without great difficulty, and sometimes not without cutting out a portion of the adhering sac."

[1] Hunter's Works by Palmer, vol. iii. p. 535.

[2] Discourse on the Nature and Cure of Wounds, p. 206. "A ball (says Mr. Bell) often lies without danger buried in the flesh for years or for life."

[3] Treatise on Gunshot Wounds, 1820. "When (Mr. Guthrie remarks) a ball has been lodged for years, we find that a membranous kind of sac is formed around it, which shuts it in as it were from all communication with the surrounding parts, and in some instances it seems to do so, and the patient suffers no sort of inconvenience from its retention."—P. 96.

[4] Principles and Practice of Surgery, p. 23. "It is not (Mr. Cooper observes) a matter of much importance as might be supposed, that the ball should be extracted, as there are very many instances of persons in whom a ball has remained without producing any ill effect by its presence."

[5] Commentaries on the Surgery of the War, etc., 1853, p. 34.

In an old patient, who had been affected more than once with syphilis, Morgagni found on dissection a leaden pistol-bullet, which had been lodged in his thigh thirty years before death. "There was," he adds, "a cyst or membranous follicle about that bullet, with which it was straitly inclosed all round."[6]

Flat pieces of lead may lie imbedded in the tissues of the human body, with apparently similar impunity to round bullets and pellets. Mr. Samuel Cooper quotes a remarkable example of this kind from M. Bordier, that happened at Pondicherry:—"An Indian soldier (says Mr. Cooper), angry with his wife, killed her and attempted to destroy himself, by giving himself a wound with a broad kind of dagger in the abdomen, so as to cause a protrusion of the bowels. A doctor of the country being sent for, dissected between the muscles and skin, and introduced a thin piece of lead, which kept up the bowels. The wound soon healed up, the lead having produced no inconvenience. The man was afterwards hanged, and M. Bordier, when the body was opened, assured himself more particularly of the fact."[7]

The instances which I have already cited refer only to lead, or lead and some of its alloys, lying in contact with the living tissues. And some authors, indeed, imagine that this negative property of harmlessness belongs, among the metals, to lead alone, "Bullets of stone (remarks Ambrose Parè,)[8] iron, and of any other metal than lead, are of another nature, for they cannot remaine any long time in the body without hurt; for iron will grow rusty, and so corrode the neighbouring bodyes, and bring other maligne symptomes." But the evidence of other metals remaining harmlessly imbedded in living tissues, or passing harmlessly through them, is equally strong. Needles, for example, may, as is well known to surgeons, long remain imbedded in the living tissues with little or no inconvenience. Even when they travel about from part to part from pressure of the muscles, etc., acting mechanically on one or other of their extremities, they produce little irritation in the course of their transit.[9]

[6] Seats and Causes of Diseases (Alexander's Translation), vol. i. p. 362.

[7] Cooper's Surgical Dictionary, p. 611; and Journal de Médecine, vol. xxvi. p. 538.

[8] English edition of Parè's Surgery, p. 249.

[9] Let me here, though in anticipation of the

"If foreign bodies (says John Hunter) are such as can be made to change their situation by the action of the body upon them, such as pins or needles, or from gravity, as is the case sometimes with bullets, then the parts through which they pass seem not to be much altered or disturbed."[1]

Various other metals, or combinations of metals, besides lead and iron, possess the same negative property of harmlessness; and, indeed, this principle has been taken advantage of in the religious and other rites of some nations. Thus, the Rev. Howard Malcolm, in his account of the religion of the Burmese, states: "Amulets and charms are worn by both sexes, but not by a large number, as among Hindus. One of these, common among military men, is the insertion of pieces of gold, or other metal, under the skin of the arm, between the elbow and shoulder. I was allowed," Mr. Malcolm adds, "by one of the Christians at Ava, to take from his arm several of these. They are of gold, inscribed with cabalistic letters."[2] Some of these Burmese warriors are, observes Captain Yule, in his late work on Burmah, said to retain the practice "of inserting a piece of metal under the flesh to make themselves invulnerable."[3]

Accident is frequently furnishing us with examples of the same law of tolerance of the living tissues for foreign metallic bodies, and that under conditions where two metals are united. For instance, our common tinned iron pins often enough become accidentally lodged in the external tissues of the body, or are swallowed and even traverse different parts of the body without showing much irritation or inflammation along their track. "In the cattle which feed in bleaching fields, there is not (observes Mr. Hunter) one of these killed without having their stomachs, etc., stuffed full of pins, and no seeming inconvenience takes place, for they appear to be healthy, and fatten as readily as other cattle."[4] Among "the cases that have occurred of persons swallowing pins, needles, etc., they have (says Mr. Hunter) been found to travel almost over the whole body, without producing any effect except in some situations exciting some sensations." Mr. Hunter, in the chapter from which I have made these quotations, is inclined to argue that the same material which will produce little or no irritation, or at the most only adhesive inflammation in the deeper parts of the body, will more and more readily induce suppuration as it approaches the external or cutaneous surface, "internal parts (to use his own words) assuming the suppurative inflammation more readily than the internal"—p. 288. Hence he would expect an abscess to form around a bullet, pin, or needle lodged immediately beneath the skin, although the same bodies would excite no such inflammatory reaction when they were lodged in the deeper structures of the body. But suppuration does not by any means always, or indeed frequently attend the approach of metallic bodies to the surface; pins, needles, and bullets are often extracted by a slight incision through the skin, without a vestige of pus being traceable around them; and when they do, as, indeed, sometimes happens, lead to suppuration, when lodged superficially and subcutaneously, the inflammatory or suppurative action is generally, if not always, the result of compression and damage of the soft tissues lying around the foreign body, these soft tissues being, as the foreign body approaches the external surface, always liable to be contused and injured by every form of accidental outward pressure that impinges upon that surface. In fact, in the harmlessness of acupuncture needles, and, latterly, in the perfect innocuousness of metallic stitches, we have abundant evidence that metallic bodies produce, *per se*, as little irritation when lodged in the skin and mucous membrane, as they do when they are lodged in any of the deeper structures of the body. And, no doubt, Mr. Hunter was far more correct when he observed, "It is probable that these cases of pins, etc., owe their want of power in producing suppuration, not entirely to situation, but, in some degree, to the nature of the substance, METALS, perhaps, not having the power of irritation (inflammation) beyond the adhesive, for when the adhesive has taken place, the part appears to be satisfied."[5]

This great and important practical law of

sequel, state, in answer to various inquiries, that at present I believe that iron wire or iron thread, such as No. 30 of the wire-maker's gauge, will be found the cheapest, strongest, and perhaps altogether the best metallic thread, both for surgical sutures and ligatures.

[1] Hunter's Works, vol. iii. p. 287.

[2] Travels in South-Eastern Asia, etc., vol. i. p. 307.

[3] Narrative of the Mission to the Courts of Ava in 1855, p. 208.

[4] Hunter's Works, vol. iii. p. 282.

[5] Hunter's Works by Palmer, vol. iii. p. 288.

the tolerance of living structures for the presence and contact of pure metallic bodies has been fully expressed by an anonymous writer in the *Edinburgh Medical and Surgical Journal* for 1827.[1] The observations which this writer made thirty years ago are so apposite to the present inquiry, that I need make no apology for quoting them in full. "It is a remarkable circumstance (says he) that the acupuncture needles never cause inflammation in their neighbourhood. If they are rudely handled, or ruffled by the clothes of the patient, they may produce a little irritation; but if they are properly secured and protected, they may be left in the body for an indefinite length of time, without causing any of the effects which usually arise from the presence of foreign bodies. In one of M. Cloquet's patients they were left in the temples for eighteen days; and in cases in which needles have been swallowed, they have remained without causing inflammation for a much longer period. It appears probable, from the facts collected on the subject, that metallic bodies may remain imbedded in the animal tissues without being productive of injury; and that the property of irritating and inflaming by mechanical contact belongs only to those bodies which are non-conductors of electricity. But farther experiments are required to substantiate this curious and important law."

The author of the preceding paragraph, though right in his generalization, is no doubt wrong in his explanation of the facts. Other inorganic bodies, besides the metals, may be lodged with impunity in living tissues; and this, too, though they are non-conductors of electricity. Small pieces of glass, for example, occasionally remain long imbedded in the body in the same way as pieces of metal do. Mr. Hunter, indeed, points out this fact specially.[2] A medical friend of mine has a small piece of glass imbedded in his lip, which has remained there with impunity for upwards of twelve years. I have heard of two or three cases of small pieces of glass lying quietly in the structures of the hand for long periods. An eminent surgeon had for twenty or more years a small piece of coal lying without inconvenience beneath the skin of the leg; and the small particles of carbon left by the explosion of gunpowder and by tattooing are well-known to remain in the cutaneous tissues for a long lifetime without producing any irritation or disturbance. The Burmese, according to Mr. Malcolm, bury and carry not only gold, but also "sometimes small gems" under the skin of their arms.[3] In fact, there seems to be a law of tolerance more general than the passiveness of living tissues to the presence in them of metallic bodies; this higher and more comprehensive law apparently being that living structures may endure with impunity the presence of inorganic, and even of dense organic materials, provided they are not porous and capable of absorbing and retaining within them the secretions which are thrown out around them.

Before closing these observations on the tolerance of living tissues for metallic bodies, let me add, that in this as in many other instances, when once a general principle is established, we often find that it will serve us as a clue to the explanation of facts of an equivocal character already alleged, but which from their very strangeness, and previous inexplicability, were still regarded with doubt by some minds. For example, we have already seen that one old mode of attempting the radical cure of inguinal hernia was by the "golden stitch," or by encircling the neck of the hernia sac with a permanent gold wire, which wire was left imbedded in situ, and the wound closed over it. The past history of surgery shows that this practice was followed as far as the safety and life of the patient were concerned, with a degree of frequency and impunity

[1] See the Review of the Essays of Clocquet, Sarlandiere, Pelletan, Pouillet, Carraro, and Dantu de Vannes, in the Edinburgh Medical and Surgical Journal, vol. xxvii. p. 197.

[2] Loc. cit., p. 288. After speaking of "metals perhaps not having the power of irritation beyond the adhesive," Mr. Hunter observes: "This appears also to be the case with the introduction of glass, even in superficial parts: a piece of glass shall enter the skin just deep enough to bury itself; inflammation shall come on; the wound in the skin, if brought together, shall heal by the first intention; and the inflammation shall not exceed the adhesive, but rather degenerate into the disposition to form a sac, by which means a sac is formed around the glass, and no disturbance is given to the irritability of the parts. This was the case with Mr. Knight, apothecary, who had a piece of glass, three-fourths of an inch long, run into the palm of his hand, and remained there for ten weeks, without any further inconvenience than retarding the motion of the hand, and sometimes giving a pricking pain, when the sac was made to press upon the points of glass; this insensibility, however, arises from a sac being formed with such properties, but it cannot be assigned as a cause in the case of bodies moving with pins."

[3] Travels in Asia, vol. i. p. 307.

which was startling under our modern pathological ideas of the facility with which injuries and wounds of the peritoneum run on to dangerous degrees of inflammation and death.[1] In the same way these ideas have again been upset in modern days by the new mode of radical cure for inguinal hernia introduced by Wurtzer, Rothmond, Spencer Wells, and other surgeons, and which essentially consists in infibulating the hernial sac, and placing and keeping for several continuous days a stitch through this inverted portion of the peritoneal sac. We have proof of the innocuousness of this method of operating in the fact that Rothmund has, it appears, practised the operation now upwards of one thousand times without losing a patient, or seeing one case of fatal peritonitis excited by this prolonged puncture and transfixion of the peritoneum. In all probability the explanation of the comparative safety of both these modes of radical cure of hernia is simply this: The thread or needle used is metallic, and hence, in accordance with the general law which we have been considering, inflammation is excited by the metallic thread or metallic pin only up to the degree or stage of adhesion. If a silken thread is used for the purpose, then, as shown indeed by the result of Gerdy's experience upon the radical cure of inguinal hernia, the same operation comes to be attended by a higher and far more dangerous degree of inflammatory action.[2]

Law of Non-tolerance of Living Tissues for the Presence of Dead Foreign Organic Bodies.—When foreign dead[3] organic bodies, belonging either to the animal or vegetable kingdom, are lodged or imbedded in the living tissues, they, as a general law, speedily produce morbid irritation and excitement, and a degree of inflammation which soon terminates in suppuration and ulceration.

In experiments upon the lower animals, pieces of lint-cloth, etc., lodged in the cellular tissue, etc., excite suppurative inflammation, when portions of metal of equal size, lodged in their neighbourhood, and at the same depth, excites only adhesive inflammation.

Foreign or dead organic substances are sometimes found lodging in and complicating wounds in the human subject, particularly gunshot wounds.

The walls of a gunshot wound along its tract through the soft tissues of the body, are often to a greater or less extent killed by the force and blow of the ball, and consequently slough. Whenever a portion of soft tissue is in this way deprived of vitality, and becomes a dead organic substance, it excites in the contiguous living structures suppurative and ulcerative inflammation to such a degree as is necessary for the disjunction and elimination of the dead organic tissue.

When any portion of the soft tissue dies or sphacelates from any other cause, mechanical or morbid, it gives rise in the same way for its separation and removal to suppurative and ulcerative inflammation in the contiguous living structures.

The same law holds true in regard to a piece of dead or necrosed bone. Suppurative and ulcerative action is set up in the living tissues around it. When a piece or splinter of bone is struck completely off by a gunshot wound, the lodgment of this separated fragment of bone prevents, sometimes for a long period, the wound from closing, and keeps up constant morbid irritation and suppuration by its presence.

Pieces of cloth are occasionally lodged in the structures of the human body by gunshot wounds, the ball carrying before it and with it portions of dress, etc. The law of the non-tolerance of living tissues for the presence of foreign organic bodies, is strongly illustrated by the irritation and suppuration to which such imbedded portions of cloth give rise. The fact is one well known in military surgery, and is alluded to by various authors. Thus, for example, Mr. John Bell, in his "Discourses upon Wounds," when treating of the circumstances which may impede the healing of a gunshot wound, specially point out, that, as a cause of its slow cure and of its continuous irritation

[1] In describing this old method for the radical cure of hernia, Purmann, for example, remarks, in reference to the frequency and comparative safety of the operation: "The famous and excellent operator at Leyden, Schmaltzius, was so expert at it, that you could not perceive how he performed it without a diligent circumspection; yea, I verily believe, he could have cut fifteen patients in an hour's time, if he had had so many. When I was there, he cut but six in an hour, all which succeeded; but then he took more time than ordinary."—*Chirurgia Curiosa*, Book II., chap. 13, p. 161.

[2] See Mr. Spencer Wells's paper "On the Radical Cure of Inguinal Hernia," in the Dublin Journal of Medical Science, for May, 1858.

[3] We shall afterwards see that living organic bodies, as imbedded entozoa, do not, while living, give rise by their presence to suppurative or ulcerative inflammation.

and suppuration, "there may remain some foreign body within the wound; now," he continues, "a ball *never* produces these; a broken and corrupted bone would presently be known by the black colour and fetid smell of the discharge; and if the slow healing of the wound is known to proceed from neither of these causes, then most likely it arises from some piece of *cloth* which has passed in along with the ball."[1]

In the practice of his profession, the surgeon often takes advantage of the same law; for when he wishes the sides of any artificial wound or opening which he has made not to adhere, he knows he can effect this purpose by lodging between the walls of the wound a piece of charpie, or other foreign body; and he is further certain, by maintaining the foreign body in this position for a few days, that suppuration in the walls of the wound will be excited by its presence.

A very small and minute fragment of dead animal or vegetable substance is sufficient, in accordance with this law, to excite suppuration in the living tissues among which it is lodged. Several years ago various eminent surgeons tried for a time the practice of cutting off both the ends of the ligatures with which they had tied vessels in amputations and other operations. The quantity of organic ligature required to be thus left buried in the closed wound around each deligated vessel was extremely small.

Mr. Lawrence calculated that the loop of silk thus left around each artery was, perhaps, not heavier than one-fiftieth of a grain; and the weight of flax or hemp thread required was not much more.[2] But though this vestige of foreign organic matter is not generally sufficient to prevent the union of the wound by the first intention, yet the practice has latterly been almost entirely given up by surgeons because they found that, as a general law, this minute fragment of organic ligature thus left imbedded in the wound became inclosed in a small abscess, and by its presence gave rise to a slow process of suppuration and ulceration, by which the ligature was ultimately carried out, and discharged from the surface of the body. "By some both ends (says Professor Miller) are cut away; in the belief that adhesion is thus favoured throughout the line of wound, as doubtless it is; and in the hope that the noose will become encysted, and give no further annoyance—as certainly will not happen. Adhesion under such circumstances is a misfortune; for the noose and its contained slough are to all intents and purposes foreign matter; as such their presence will be resented by the surrounding living textures; and as such they will be extruded by suppuration. Sooner or later—often after cure has apparently been completed—deep abscess forms painfully and slowly, having approached the surface, pus is discharged, and with it, its cause, the noose. Not until this latter has been put forth will the pain and discharge cease."[3]

Long organic ligatures of silk or thread, thrown around bleeding vessels, and left hanging out of the surgical wounds, keep up in the same manner by their presence and contact a continuous process of suppuration along their tract; and at the point of deligation the tied artery is cut through by ulceration, before the ligature becomes separated and removed.

Organic sutures formed as suture-threads have hitherto been of silk, flax, or hemp, act in accordance with the same general law of the non-tolerance of living tissue for foreign organic substances, and when left for a short time, always at last excite suppuration and ulceration by their presence.

Indeed the common organic sutures hitherto used by surgeons do thus so often prove noxious centres and sources of irritation in the lips of wounds as to have led, repeatedly, in the past history of surgery, to their more or less partial or complete rejection from practice. Above a century ago the published observations of Pibrac and Louis, led for a time, to the almost total discontinuance of sutures in closing and keeping in apposition the lips of wounds, whilst the same object was attempted to be obtained principally or entirely by the aid of position, plasters, and bandages. The best surgeons of modern times, while returning again to the moderate use of silk and similar sutures, have very generally acknowledged the irritating and unhappy effects occasionally produced by them, particularly when too

[1] Discourses on the Nature and Cure of Wounds, p. 203.

[2] "A portion," says Mr. Lawrence, "sufficient to tie a large artery, when the ends are thus cut off, weighs between 1-50th and 1-60th of a grain; a similar portion of the thickest kind I have tried weighs 1-20th of a grain, and of the slenderest 1-100th. These ligatures do not interfere with the process of adhesion."—*Medico-Chirurgical Transactions*, vol. vi. p. 103.

[3] Miller's Principles of Surgery, p. 362.

long detained. Thus the late Professor Samuel Cooper, in the last edition of a work that was long regarded as a standard exposition of English Surgery, remarks, that it must be allowed that the cause of some wounds not uniting, "is entirely ascribable to the irritation occasioned by the sutures themselves."

"Since (he observes) the sutures *always* act as extraneous bodies in the exciting more or less inflammation and suppuration round them, there can be no doubt that their employment is invariably wrong, whenever the sides of a wound can be maintained in contact by less irritating means, with equal steadiness and security. For what is it that generally counteracts the wishes of the surgeon, and renders his attempts to make the opposite surfaces of wounds grow together unavailing? Is not the general cause too high a degree of inflammation, which necessarily ends in suppuration? Are not sutures likely to augment inflammation both by the additional wounds of the needles, and the still more pernicious irritation of the threads, which always act as foreign bodies, sometimes producing not merely an increase of the inflammation and suppuration in their tract, but frequently ulceration or sloughing of the parts; and, in particular constitutions, an extensive erysipelatous redness. More wounds are hindered from uniting by sutures than such as are healed by them."[1]

Or let me quote on this point the Author of the last work on Surgery published in this country:—

"Sutures (says Professor Pirrie) should not be employed when it is possible to maintain steady apposition without them. During the first day or two, and before they have cut their way by ulceration through the skin, they certainly act more powerfully than plasters in maintaining coaptation—one of the essentials for obtaining adhesion; but they also irritate much more, and, if not speedily removed, excite, at least in their immediate vicinity, sufficient inflammation to lead to ulceration, preparatory to their spontaneous extrusion, and the vascular action thus set up in one part of a wound, may extend so far as materially to interfere with or prevent adhesion. Even under the most favourable circumstances, a slight suppuration seldom fails to follow in the track of each stitch; and though, when the action stops here, the general healing of the wound may not be retarded, still the greater marking of the cicatrix, at each of these points, is an additional reason for avoiding their employment, when possible, especially on exposed parts.[2] Sutures, then (concludes Dr. Pirrie), are to be employed when there is difficulty in keeping the parts satisfactorily in contact by means of plasters; but they should be as few and far between as consists with the attainment of their immediate object."

In short, Professor Pirrie, like many other eminent surgeons, holds with Mr. Hunter, that plasters have an advantage over stitches, by not inflaming the parts over which they are applied; "and (to use Mr. Hunter's own words) by neither producing in them suppuration or ulceration, which stitches always do." (P. 257.)

Exceptions to the Two preceding Laws in Surgical Pathology.—In pathology there are many general, but few or no universal laws. The two preceding general laws, like all other general laws in medicine, are liable to more or fewer exceptions, apparent or real. To understand the full practical value of these two laws or principles, let me here state one or two of the more important exceptions to them.

1. The presence of metallic bodies or threads is liable—like the presence of organic bodies or threads—to produce in living tissues absorption, with the formation of pus—or, in other words, suppuration and ulceration—provided it is combined with strong constriction of, or strong pressure upon these tissues. In fact, surgeons have used, as we have already seen, metallic threads in this way, to produce by firm and forced constriction rapid ulcerative absorption in dividing the necks of polypi, or the solid walls of a fistula *in ano*. Here it might seem as if the metallic material excited by its presence, not adhesive, but suppurative and ulcerative inflammation. But this exception to the general law of the tolerance of living tissues for metallic bodies is more apparent than real. For the truth is that the resulting rapid ulceration and absorption in these instances are the result of the mere strong mechanical constriction and pressure of the living tissues, and quite independent of the agent or material, by

[1] Cooper's Surgical Dictionary, Article "Sutures," p. 1211.

[2] Principles and Practice of Surgery, by Professor Pirrie, of Aberdeen, p. 64.

which that constriction and pressure are produced. The effect would equally follow, whether the ligatures were organic or inorganic, provided only the physical amount of constriction and pressure made by them upon the involved living tissues were sufficient in degree. But the observation becomes important in another point of view. For it shows us that we must not expect metallic, any more than organic suture-threads to remain quite free from any chances of suppuration and ulceration in their courses or tracks, provided they are so placed in a wound as to drag and press greatly upon the included tissues. The living tissues will only in general tolerate, without suppuration or ulceration, metallic threads, on the condition that they are so placed and so adjusted as not to produce unnecessarily strong tension and traction upon the structures through which they pass.

2. Though in surgery organic threads and ligatures, as a general law, speedily produce, by their presence, suppuration and ulceration in tissues in contact with them; yet there occasionally occur in practice exceptions, real or apparent, to this common principle in surgical pathology. Sometimes, though very rarely, an effusion of coagulable lymph only, and not of pus, is thrown out around the organic threads, or, in other words, its presence for five or six days, or longer, excites only adhesive, and not, as usual, suppurative and ulcerative inflammation. Again, sometimes another result is seen, viz., that when silk or flax threads and ligatures are left in the living structures for weeks or months, they in the first instance excite, as usual, more or less suppuration and ulceration in the tissues immediately in contact with them; but after a time the secretion of pus ceases, the included portion of thread becomes dried and rigid, like a non-porous, inorganic material, and subsequently becomes fixed in its site by effused coagulable lymph and granulations. I have repeatedly seen this series of changes in watching the effects of sutures in the lower animals; sometimes with one loop of suture thread remaining moist and the centre of a purulent collection, and a contiguous thread dried, stiffened, and fixed *in situ* by coagulable lymph and granulations. Similar examples occasionally occur in the human subject. Last year, in a case of complete and extensive laceration of the perineum, I brought the edges of the rent together an hour or two after delivery, by the usual deep quilled suture, and by some superficial stitches in the skin of the perineum, and the mucous surface of the vagina. Three days afterwards, the patient's medical attendant removed the quilled sutures, and the superficial cutaneous stitches; and the reunion of the parts was found complete. I did not see the patient from the day of operating, till three months afterwards, when I was asked to ascertain if there was anything wrong in the vagina. In the posterior wall of the vagina, in the site of the previous laceration, I found, still *in situ*, the two silk stitches, that had been used to bring the mucous walls of the rent into apposition, but which had escaped notice when the other threads were withdrawn. The embedded loops were dry and arid, and their sites marked by an accumulation of granulations.

Such exceptions, however, by their rarity only prove the extent and importance of the very law of which they thus form occasional variations.—*Med. Times and Gaz.*

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Yellow Fever.—We regret to have to record the prevalence of this disease as an epidemic, both in New Orleans, and in Charleston, S. C. The deaths from that disease in the former city during Friday, Aug. 20th, were 54; during Saturday, Aug. 21st, were 78; and for the week ending Aug. 21st, 310.

In Charleston the deaths during the week ending Aug. 21st, were 28.

The American Pharmaceutical Association.—This association will meet in the city of Washington on the 14th of September next. The subjects of domestic adulteration of drugs and the revision of the Pharmacopœia are to be acted upon by the Association. The Committee upon Home Adulterations request, in the mean time, information from all who are interested in the subject and can furnish *facts* in regard to it. Physicians as well as apothecaries are appealed to for this information, which may be addressed to the Chairman of the Committee, C. B. Guthrie, 88 John Street, New York City.

Shelby Medical College.—A new school has recently been organized at Nashville, Tenn., under the above title. The following gentlemen constitute the faculty: Jno. Frederick May, M. D., of Washington City, D. C., Prof. of the Principles and Operations of Surgery; E. B. Haskins, M. D., of Clarksville, Tenn., Prof. of the Theory and Practice of Medicine; John P. Ford, M.D., Prof. of Obstetrics and Diseases of Women and Children; Thomas L. Maddin, M. D., Prof. of Anatomy—Descriptive, Histological and Surgical; John H. Callender, M. D., Prof. of Materia Medica and Therapeutics; Richard O. Currey, M. D., of Knoxville, Tenn., Prof. of Medical Chemistry and Medical Jurisprudence; Daniel F. Wright, M. D., of Memphis, Tenn., Prof. of Physiology and Pathology; R. C. K. Martin, M. D., Prof. of Clinical Medicine; H. M. Compton, M. D., Demonstrator of Anatomy.

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Prof. Agassis.—The Boston *Courier* states that this eminent naturalist had declined the splendid offer made him by the Emperor of the French, of the superintendence of the Garden of Plants, Paris, with a salary of twenty-five thousand francs and a seat in the Senate. Prof. A. prefers to remain in his adopted country, where he will be employed for some years to come, in completing his great work on the Natural History of the United States.

FOREIGN INTELLIGENCE.

Neuralgia.—Dr. Alexander Wood operated at the Infirmary before the members of the British Association, at the late meeting in Edinburgh, on two patients for neuralgia according to a plan proposed by him. This consists in injecting under the skin, at the most painful part of the nerve, a few drops of Battley's solution. The patients expressed themselves relieved, and Dr. Wood speaks of the process as the most certain and effective means of curing all forms of neuralgia.

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Iodide Injections.—M. Creuzer, a military surgeon, states, in the *Journal de Médecine et de Chirurgie Pratiques*, that he has cured a sergeant of a cystic tumour of the great toe by means of an iodine injection. Such injections are doubtless extremely useful, but we would warn practitioners from using them freely where the sac communicates with either of the three cavities. M. Marjolin, Surgeon to the Children's Hospital in Paris, with great judgment and candour, lately brought before the Surgical Society a case of his where a little girl died soon after the second injection into the sac of a psoas abscess, from the rupture of the former, and the passage of the iodine into the peritoneal cavity.—*Lancet*, June 19.

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Neglect of Brain Disease.—The poor overwrought brain meets with but little attention and consideration when in a state of incipient disorder. The faintest scintillation of mischief progressing in the lungs, heart, liver, and stomach, immediately awakens alarm, and medical advice and treatment are eagerly sought; but serious, well-marked symptoms of brain disorder are often entirely overlooked and neglected; such affections frequently being permitted to exist for months without causing the faintest shadow of uneasiness or apprehension in the mind of the patient or his friends. Morbid alterations of temper—depression of spirits, amounting sometimes to melancholia, headache, severe giddiness, inaptitude for business, loss of memory, confusion of mind, defective power of mental concentration, the feeling of brain lassitude and fatigue, excessive ennui, a longing for death, a want of interest in pursuits that formerly were a source of gratification and pleasure, restlessness by day, and sleeplessness by night, all obvious indications of an unhealthy state of the functions of the brain, and nervous system, rarely, if ever, attract attention, until the unhappy invalid, becoming unequivocally deranged, commits an overt act of insanity. Then, the exclamation is, "Poor fellow, his mind has been affected for months!" and no one expresses any surprise that he should, in such a state of mental disorder, have hung himself or cut his throat. It is difficult to induce the public to take a common sense and right view of this important subject; for, if the saving of life is the object, it is to the public mind we must plainly address ourselves. If a person in a previous state of mental and bodily health is conscious that abnormal changes are taking place in the mind—that trifles worry and irritate—that the brain is evidently unfit for work—that the spirits are

flagging—that all the evils of life are magnified; if he is disposed to be fanciful—imagining things to exist that have no existence apart from himself—believing that kind friends ill use and slight them; if symptoms like these, or analogous to these, are associated with headache, derangement of the stomach and liver, and want of continuous sleep, the patient may assure himself that the state of the brain is abnormal, and requires careful consideration and treatment. —Forbes Winslow, *Journal.*

Aluminium.—This metal is almost as white as silver, but like silver it requires cleansing to keep its brilliancy, and at present, no means have been found to keep it as brilliant as silver. It is, however, more elastic than this metal, and it can be drawn into finer wire, its tenacity being greater. It is, moreover, compared unalloyed with alloyed silver, and were this last without its alloys it would lose in the comparison. Little is known of the alloys of aluminium at present. Being four times less dense than silver, the extraordinary lightness of aluminium never fails to create astonishment. It undergoes no alteration whatever on exposure to the air. A plate suspended in a court for more than a year exhibited no change in weight or appearance; and ornaments worked in it three years since remain absolutely the same. Neither nitric nor sulphuric acid will act upon it; and as muriatic acid acts upon it very slowly, it has been advantageously substituted for platina in the voltaic pile. It is an important fact in domestic economy that aluminium is the most harmless of all the metals, not only avoiding the dangers of copper in culinary utensils, but also the ferruginous taste produced by iron vessels, and the fishy one due to the protochloride of tin. Its point of fusion is inferior to that of silver, but the fiercest kitchen fires do not melt vessels constructed of it. Its specific heat is very considerable, and when once heated it preserves its temperature for a long period. Its sonority is equal to that of silver, and almost crystalline. It may be gilded by means of the pile; and by its aid, perhaps, the problem of gold and silver ornamentation may be solved. At present these two metals cannot be associated, owing to the blackening of the silver. A combination of copper with aluminium produces bronzes which may be advantageously employed. The proportion of ten per cent. resembles iron in almost all its physical properties, and can be drawn into a wire of greater tenacity, and much greater lightness, than iron wire. —*Gaz. des Hôp.*, No. 9. Professor Schrötter recently communicated to the Vienna Academy some information he had obtained from Dr. Schwarz, of the Austrian Consulate at Paris. He has made a collection of the articles that have been fabricated in aluminium, amounting to 159 in number, and valued at 7000 francs, showing that the metal, whether in its pure or alloyed state, is well capable of useful applications. Its alloys are three—tin, silver, and copper. That of tin (3 aluminium to 100 tin) is harder and less liable to be acted upon by acids than tin alone, and is displacing it for many purposes. The alloy with silver (of 5 parts of this to 109 of aluminium) is considerably employed for dessert knives; while that of 100 parts of silver and five of aluminium is admirably suited for medals, and will, on account of its greater beauty and durability, at no distant time supplant the alloy of silver and copper used for this purpose. The most important alloy is, however, aluminium and copper, since with from five to ten per cent. of aluminium we have an exact resemblance to the colour of gold, while the mixture is distinguished by its firmness, elasticity, and unchangeableness when exposed to the air or to alkaline and acid solutions. The price of aluminium can no longer be regarded as a hindrance to its employment, for it has already fallen from 1200 to 300 francs the kilo, and by taking large quantities can be got for much less. At present, there are only two establishments for producing it, one at Nanterre, near Paris, being the original establishment founded by Deville, and the other near Rouen. The first of these manufactures about sixty, and the second eighty kilos per month. The latter establishment produces it from kryolith (3 Na F, $Al_2 F_3$), as recommended by Rose, and which exists in such enormous masses on the Greenland coast that it is brought to the French ports at three francs per 100 kilos—the proprietors engaging to furnish 2000 tons per annum for twenty years. Owing to the employment of this, the price of aluminium will probably fall to fifty francs the kilo.—*Erdman's Journal für Chemie.*